Ram Seshadri: Publications and Patents

Updated April 25, 2024. Also to be found at http://www.mrl.ucsb.edu/∼seshadri

Awarded US Patents:

7. C. J. Cozzan, S. P. DenBaars, and R. Seshadri, Ce:YAG/Al_2O_3 composites for laser-excited solid-state white lighting, United State Patent 0,264,100 (August 29, 2019).

6. K. A. Denault, S. P. DenBaars, and R. Seshadri, Laser-driven white lighting system for high-brightness applications, United State Patent 9,927,076 (March 27, 2018).

5. K. A. Denault, S. P. DenBaars, and R. Seshadri, Laser-driven white lighting system for high-brightness applications, United State Patent 9,574,728 (February 21, 2017).

4. R. Seshadri, A. Birkel, B. Hong, and J. A. Gerbec, Single phase and full-color phosphor, United State Patent 9,228,125 B2 (January 5, 2016).

3. W.-B. Im, R. Seshadri, and S. P. DenBaars, Solid solution phosphors based on oxyfluoride and white light emitting diodes including the phosphors for solid state white lighting applications, United State Patent 8,535,565 (September 17, 2013).

2. W.-B. Im, R. Seshadri, and S. P. DenBaars, Oxyfluoride phosphors and white light emitting diodes including the oxyfluoride phosphor for solid-state lighting applications, United State Patent 8,344,611 B2 (January 1, 2013).

1. W.-B. Im, R. Seshadri, and S. P. DenBaars, Yellow emitting phosphors based on Ce^{3+}-doped aluminate and via solid solution for solid-state lighting applications, United States Patent 8,163,203 (April 24, 2012).

In press, or submitted:

E. E. Morgan, A. Brumberg, S. Panuganti, G. Kent, A. Zohar, A. Mikhailovsky, M. G. Kanatzidis, R. Schaller, M. L. Chabinyc, A. K. Cheetham, and R. Seshadri, Molecular origins of near-infrared luminescence in molybdenum and tungsten oxyhalide perovskites.

A. Balvanz, M. Safdari, M. Zacharias, D. Kim, C. Welton, E. Oriel, M. Kepenekian, C. Katan, C. Malliakas, J. Even, V. Klepov, G. N. M. Reddy, R. Schaller, L. Chen, R. Seshadri, and M. G. Kanatzidis, Structural evolution and photoluminescence quenching across the $FASnI_{3-x}Br_x$ (x = 0 – 3) perovskites.

Y. Li, R. Seshadri, S. D. Wilson, A. K. Cheetham, and R. Valentí, Origins of temperature-dependent magnetism in open-shell 4d and 5d halide perovskites, [**arxiv/2402.14064**]

R. Vincent, A. Bologna, A. Kallistova, J. Mayer, M. Zepeda-Rosales, C. dela Cruz, R. Zhang, F. Seeler, K. Schierle-Arndt, and R. Seshadri, Material structures and compositions within “black mass” feedstocks from Li-ion battery recycling.

A. K. Watkins, D. Johrendt, V. Vlcek, S. D. Wilson, and R. Seshadri, Fidelity and variability in the interlayer electronic structure of the kagome superconductor CsV_3Sb_5. *Phys. Rev. Mater.* [**arxiv/2311.02289**]

J. A. Cooley, G. Dairaghi, G. Moore, M. K. Horton, E. C. Schueller, K. A. Persson, and R. Seshadri, Magnetism and magnetocaloric properties of $Co_{1-x}Mn_xCr_2O_4$, *Phys. Rev. Mater.*

Appeared, not peer-reviewed:

2. N. A. Spaldin and R. Seshadri, History of ferroelectrics – a crystallography perspective, *IUCr Newsletter* **29** (2021), Feature. [**IUCr Newsletter Link**]

1. T. A. Strom, G. Haugstad, J. Shu, and R Seshadri, Shared instrumentation facilities: Benefiting researchers and universities, sustaining research excellence, *MRS Bulletin* **45** (2020) 331–335. [**DOI: 10.1557/mrs.2020.130**]

Appeared:

431. A. K. Cheetham and R. Seshadri, Artificial intelligence driving materials discovery? Perspective on the article: Scaling deep learning for materials discovery, *Chem. Mater.* **36** (2024) 3490–3495. [**DOI: 10.1021/acs.chemmater.4c00643**]

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430. E. Mozur and R. Seshadri, Magnetic tunability in tetragonal Mn–Rh–Ir–Sn inverse Heusler compounds, *J. Phys.: Condens. Matter* **36** (2024) 195802 (open access). [**DOI: 10.1088/1361-648X/ad2585**]

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428. E. E. Morgan, A. Zohar, S. Lipkin, B. Monserrat, S. Vaidyanathan, D. Loeffler, R. Zhang, K. Schierle-Arndt, A. K. Cheetham, and R. Seshadri, Screening aluminum-based compounds as low-κ dielectrics for high-frequency applications. *Chem. Mater.* **36** (2024) 1228–1237. [**DOI: 10.1021/acs.chemmater.3c01975**] & [**UC-eScholarship**]

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